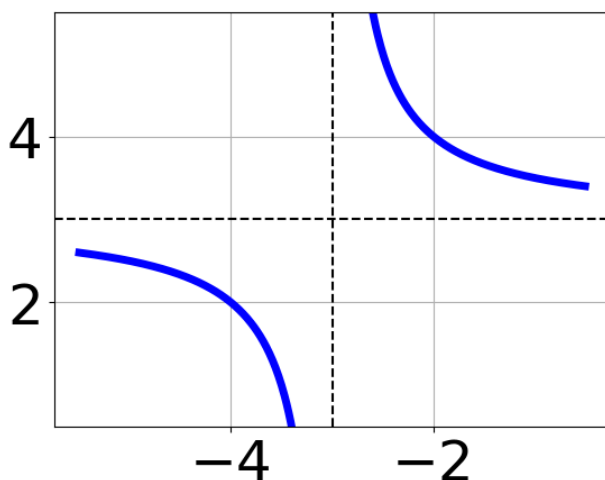1. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-20}{70x - 40} + 1 = \frac{-20}{70x - 40}$$
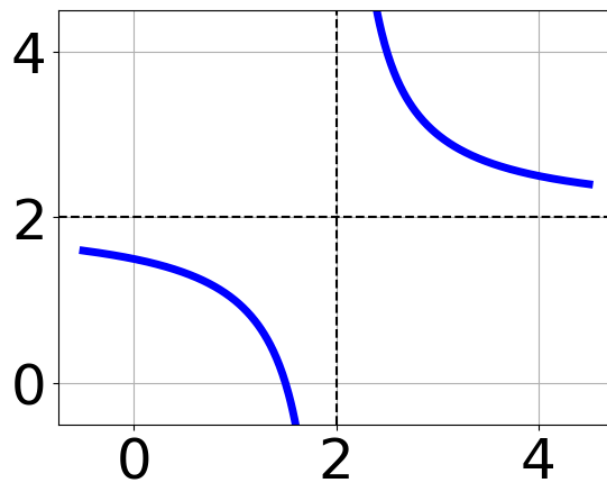
   A. All solutions lead to invalid or complex values in the equation.

   B. $x \in [0.57, 1.57]$

   C. $x_1 \in [0.4, 1.1]$ and $x_2 \in [0.57, 1.57]$

   D. $x \in [-1.6, 0.3]$

   E. $x_1 \in [-1.6, 0.3]$ and $x_2 \in [0.57, 1.57]$

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2. Choose the equation of the function graphed below.

   A. $f(x) = \dfrac{1}{(x + 3)^2} + 3$

   B. $f(x) = \dfrac{-1}{x - 3} + 3$

   C. $f(x) = \dfrac{1}{x + 3} + 3$

   D. $f(x) = \dfrac{-1}{(x - 3)^2} + 3$

   E. None of the above

3. Choose the equation of the function graphed below.

A. $f(x) = \dfrac{-1}{(x-2)^2} + 2$
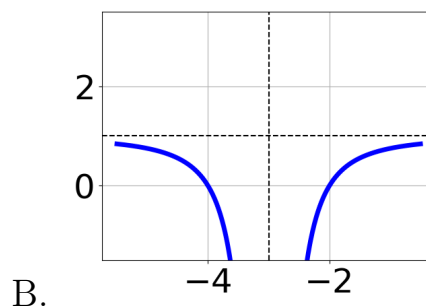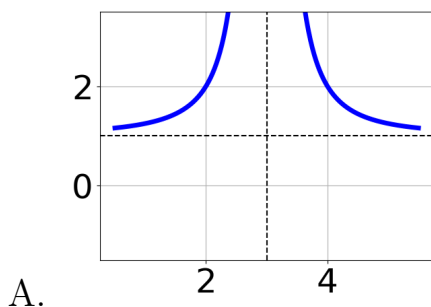
B. $f(x) = \dfrac{1}{x+2} + 2$
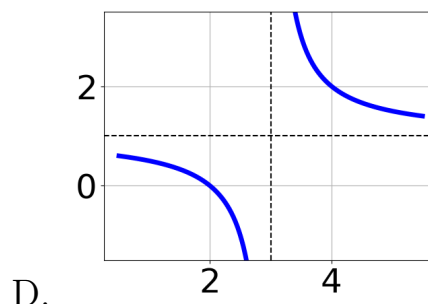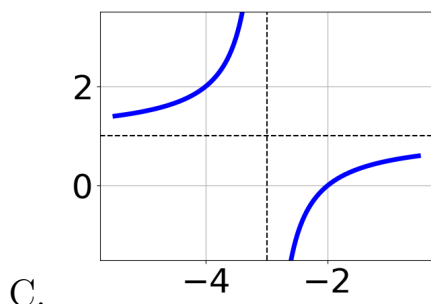
C. $f(x) = \dfrac{-1}{x-2} + 2$

D. $f(x) = \dfrac{1}{(x+2)^2} + 2$

E. None of the above

4. Choose the graph of the equation below.

$$f(x) = \dfrac{-1}{(x+3)^2} + 1$$

A.

B.

C.

D.

E. None of the above.

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5. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-4x}{-5x-5} + \frac{-6x^2}{-30x^2-60x-30} = \frac{-2}{6x+6}$$

A. All solutions lead to invalid or complex values in the equation.

B. $x \in [-1.37, -0.95]$

C. $x_1 \in [-0.62, -0]$ and $x_2 \in [-1.92, -1.48]$

D. $x_1 \in [-1.37, -0.95]$ and $x_2 \in [-1.41, -0.89]$

E. $x \in [-1.37, -0.95]$

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6. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-5x}{-3x-5} + \frac{-4x^2}{-9x^2-27x-20} = \frac{-4}{3x+4}$$

A. $x_1 \in [-2.51, -1.62]$ and $x_2 \in [-1.47, -1.31]$

B. All solutions lead to invalid or complex values in the equation.

C. $x_1 \in [-1.11, -0.28]$ and $x_2 \in [-2.5, -1.79]$

D. $x \in [-1.37, -1.16]$

E. $x \in [-2.51, -1.62]$

7. Determine the domain of the function below.

$$f(x) = \frac{4}{24x^2 + 30x + 9}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [-18.59, -17.66]$ and $b \in [-12.34, -11.94]$

B. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.29, -0.59]$ and $b \in [-0.73, 0.43]$

C. All Real numbers except $x = a$, where $a \in [-18.59, -17.66]$

D. All Real numbers except $x = a$, where $a \in [-1.29, -0.59]$

E. All Real numbers.

8. Determine the domain of the function below.

$$f(x) = \frac{6}{15x^2 - 35x + 20}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [11.97, 12.02]$ and $b \in [24.92, 26]$

B. All Real numbers except $x = a$ and $x = b$, where $a \in [0.06, 1.24]$ and $b \in [1.27, 1.5]$

C. All Real numbers except $x = a$, where $a \in [0.06, 1.24]$

D. All Real numbers except $x = a$, where $a \in [11.97, 12.02]$

E. All Real numbers.

9. Choose the graph of the equation below.

$$f(x) = \frac{-1}{x - 2} - 1$$

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B.

D.

C.
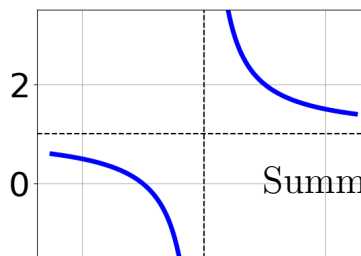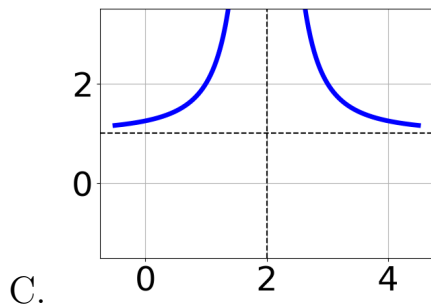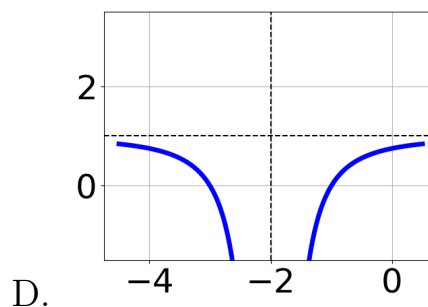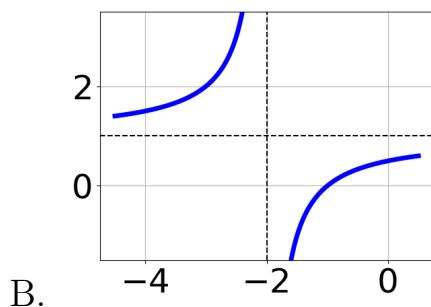
E. None of the above.

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10. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-7}{-9x-4} + -6 = \frac{-3}{-36x-16}$$

A. $x_1 \in [-0.37, -0.32]$ and $x_2 \in [-0.3, 1.2]$

B. $x \in [0.51, 0.59]$

C. All solutions lead to invalid or complex values in the equation.

D. $x \in [-0.33, 1.67]$

E. $x_1 \in [-0.42, -0.36]$ and $x_2 \in [-1.1, 0.3]$